

RICHARD P. CROUSE Vice President Energy Supply [419] 259-5221

Docket No. 50-346

License No. NPF-3

Serial No. 1-93

October 1, 1979

Mr. James G. Keppler Regional Director, Region III Office of Inspection & Enforcement U.S. Nuclear Regulatory Commission Glen Ellyn, Illinois 60137

Dear Mr. Keppler:

IE Bulletin No. 79-14, dated July 2, 1979, requested that we develop and implement an inspection program to verify that the Davis-Besse Nuclear Power Station Unit 1 seismic analysis input for safety related piping systems conforms to the actual field configuration. Attached is our response to Item 2 of Bulletin No. 79-14.

Our inspection of normally accessible safety related piping was completed September 21, 1979. Discrepancies found during the inspection are being reviewed in accordance with the guidance provided in Supplement Nos. 1 and 2 to IE Bulletin 79-14. Preliminary evaluations of walkdown discrepancies indicate that none adversely affect system operatility. Detailed engineering reviews of the total field packages are currently 50% complete and support these preliminary evaluations. The remaining reviews are being completed and will be reported to you by a supplement to this report by October 19, 1979.

Based on completion of these engineering evaluations sustaining the present high degree of confidence in Davis-Besse's seismic analysis conforming to the as-built safety related systems, Toledo Edison will

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delay the inspection of normally inaccessible piping systems until the currently planned spring outage scheduled to begin March, 1980. The October 19, 1979 supplement will provide schedules for any detailed analytical work to be done to support the engineering reviews per item 4B of the bulletin.

Yours very truly,

Molerne

RPC:CLM

Attachment

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cc:

U.S. Nuclear Regulatory Commission Office of Inspection & Enforcement Division of Reactor Operations Inspection Washington, D.C. 20005

U.S. Nuclear Regulatory Commission Office of Nuclear Reactor Regulation Division of Operating Reactors Washington, D.C. 20555

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Docket No. 50-346 License No. NPF-3 Serial No. 1-93 October 1, 1979

> Seismic Analysis For As-Built Safety Related Piping Systems

Response to NRC IE Bulletin No. 79-14

Davis-Besse Nuclear Power Station unit 1

I. Introduction

NRC IE Bulletin 79-14, dated July 2, 1979, Revision 1, dated July 18, 1979, Supplement 1, dated August 15, 1979, and Supplement 2, dated September 7, 1979, require all power reactor facility licensees to verify that the seismic analysis of safety-related piping systems applies to the actual as-built configuration of systems. The action items identified in the bulletin apply to all safety-related piping, 2-1/2 inches in diameter and greater, and to Seismic Category I piping, regardless of size, which was analyzed by computer.

The response to Item 1 of the bulletin was submitted on August 1, 1979 (Serial No. 1-81). This report is a response to Item 2 of the bulletin, describing the inspection procedures and findings for normally accessible piping systems, as defined by the bulletin.

II. Action Item 2

For portions of systems which are normally accessible, inspect one system in each set of redundant systems and all non-redundant systems for conformance to the seismic analysis input information at forth in design documents. Include in the inspection: piping run geometry; support and restraint design, locations, function and clearance (including floor and wall penetration); embedments (excluding those covered in IE Bulletin 79-02); pipe attachments; valve and valve operator locations and weights (excluding those covered in IE Bulletin 79-04). Within 60 days of the date of this bulletin, submit a description of the results of this inspection.

III. Response

A. Summary and Conclusions

Inspection of all normally accessible safety-related piping, including both redundant trains, was performed as described in our response to Item 1 of the bulletin. The inspection teams began the walkdown inspections at the site on July 30, 1979 and completed the effort on September 21, 1979. Preliminary evaluation of the discrepancies discovered by the inspection team have been completed and the results indicate that none of these discrepancies adversely affect system operability. Detailed engineering reviews of the field packages are currently fifty percent (50%) complete and support the preliminary evaluations.

B. Inspection Packages

As described in the response to Action Item 1, all normally accessible safety-related piping systems were divided into sixty eight inspection packages. Where a system contained redundant trains, both trains were inspected at this time rather than delaying the inspection of one train until the Item 3 inspection effort. Included in each inspection package were the following items:

- The current revision of the physical piping drawing and a checklist to verify the piping run geometry and the location of pipe fittings, tees, elbows, branch connections and concentrated masses, such as valves.
- 2. A valve drawing for each different valve on the piping drawing and a checklist to verify that the valve installed in the piping system is the valve indicated on the valve drawing and that the orientation of the valve and operator with respect to the pipe axis is as shown on the piping physical drawing.
- 3. A inspection checklist for each floor and wall penetration for checking the type of penetration closure (grout, rubber, etc.) against the design drawing. If the penetration was open, or filled with soft foam, the clearances were checked.
- 4. The pipe support detail drawing and a checklist for each pipe support and pipe anchor in the piping system was used to verify location, orientation (direction), type, proper size, and that the support installation is in accordance with the design document. Attachment of the support to the pipe was also checked. Proper installation of concrete expansion anchors has been verified under the response to NRC IE Bulletin No. 79-02 (Serial No. 1-78), and therefore, was not an inspection element in this effort.

C. Inspection Procedure

To ensure that all systems were uniformly inspected, an inspection procedure, PDP-2 entitled "Inspection Procedure for As-built Configuration of Nuclear Safety-Related Piping Components, IE Bulletin 79-14", containing guidelines, system tolerances, and component tolerances was prepared for use by the walkdown teams. The procedure outlines the steps to be followed, the piping components to be examined, the level of detail to be inspected during the walkdown inspection program and the means of inspecting each component. This procedure also includes the method for proper documentation and reporting of the discrepancies identified by the walkdown teams.

The NRC Office of Inspection and Enforcement, Region III, has audited the procedure for conformance with the bulletin and the field inspection activities were audited by Bechtel Project Quality Assurance to ensure compliance with the procedure.

D. Inspection Teams and Training

A team consisting of two qualified personnel was responsible for the inspection of all piping and supports contained in one inspection package. The average experience of the walkdown teams was fourteen years in the nuclear industry with no one person having less than three years. The field effort was directed by a Group Supervisor having sixteen years of nuclear industry experience and a Professional Engineer's License.

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Extensive in-class and in-field training was given to all the walkdown team

members by qualified and experienced pipe stress and piping engineers. The items covered in the training included elements to be checked, methods of checking, documentation of the findings, etc.

The qualifications, experience level and training for each member of the walkdown team is documented and available for review.

A pipe stress analyst was located in the field for the first three weeks of the inspection to answer any questions raised by the team personnel.

E. Inspection Summa

In the accessible portions of the facility 27,000 feet of piping and approximately 3000 pipe supports were inspected. Areas of high radiation and physical inaccessibility were not inspected. High-radiation areas will be included in the inspection required by Item No. 3 of IE Bulletin No. 79-14, if radiation levels permit. The inaccessible piping totaled 600 feet, approximately 2%, of the normally accessible safety-related piping. During the inspection, 779 inspection items (pipe supports and/or penetrations) were found to be covered by insulation and, as required by Supplement 1, a program of insulation removal, inspection, and re-insulation was initiated to inspect these items. Approximately 89% (690) were inspected. This inspection did not include portions of the Main Steam piping which was at operating temperature and therefore did not allow removal of insulation. This piping will be inspected as part of Item No. 3 of the bulletin.

F. Field Review

After each inspection package was walked down in the field, it was reviewed at the site for discrepancies (i.e., missing or extra supports, missing piping, missing or wrong valves, etc.). These discrepancies were evaluated at the site by either the stress analyst or the supervisor.

All noted discrepancies have been categorized by system on a Master Punch List. Each punch list item has been identified with the data package number prefix and a sequential number. Items requiring drawing changes or field rework were noted on a Nonconformance Report (NCR).

The completed inspection package was then forwarded to the Engineer (Bechtel Power Corporation) for review by a stress analyst to determine if the as-built conditions conform to the seismic input design documents.

G. Engineering Office Review

The stress analyst reviews the Master Punch List Ltems and the marked-up piping drawings for the following:

- 1. Pipe routing
- 2. Pipe diameter
- 3. Pipe Supports location, type, function and direction

If nonconformance(s) are found in a system, an evaluation of the significance of the nonconformance is performed in two phases involving an engineering judgement (field review) within two days followed by an engineering evaluation within thirty days (office review). If the thirty day evaluation shows that a nonconformance adversely affects the system operability, applicable technical specification action statements will then apply.

The extent of any reanalysis required and schedule for the reanalysis will be provided in the supplement to this report.

Disposition

After the final reanalysis, disposition of the nonconformance will be by one of the following methods:

- 1. Changes will be made on the drawing to reflect as-built conditions.
- Changes will be made to calculations and reference documents to reflect as-built conditions.
- 3. Field modifications will be made to the components so that the component reflects the as designed condition.

IV. Conclusion

Inspection of all the normally accessible Seismic Category I piping was completed on September 21, 1979. A total of sixty eight inspection packages were used in the walkdown and have been forwarded to the Engineer for evaluation. Discrepancies identified by the detailed engineering reviews completed to date are listed in Attachment 1.

The preliminary evaluations required by IE Bulletin 79-14, Supplement 1, have been completed. Results of these evaluations indicate that operability of the systems will not be affected by the noted descrepancies. Detailed engineering reviews completed to date support these evaluations.

ATTACHMENT 1 Response to NRC IE Bulletin 79-14

The discrepancies identified by the field inspection effort and the detailed engineering reviews completed to date are listed on the following twenty four sheets.

The stress calculations are grouped by system and the description of all the discrepancies identified that appear in each stress calculation are tabulated accordingly.

If, for a given stress calculation, no discrepancies are noted, reanalysis of the calculation is not required.

If the discrepancies are of small significance and affect only a pipe support or anchor, the support itself is reanalyzed If found adequate, a drawing change may be required. This required reanalysis is indicated by a single asterisk (*).

If the discrepancies include moving of supports beyond the tolerance, a simple hand calculation to evaluate the affect on the pipe and adjacent supports is performed. This required reanalysis is indicated by two asterisks (**).

If the discrepancies include preliminary valve weights used in the analysis, different response spectra that must be considered, missing pipe supports, etc., the stress calculation will be given a complete reanalysis. This is indicated on the following sheets by three asterisks (***).

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Ch DATE 9/30/74 OK AS IS OR DUG/ CALC CHCS REQD CORRECT TO ORIGINAL DESIGN SYSTEM SYSTEM AUXILIARY FEEDWATER OPERABILITY STRESS CALCULATION NO. WALKDOWN PACKAGE NO. UNAFFECTED IF AFFECTE! ANALYSIS REQUIRED AFFECTED REFER TO REMARK NO. DIS PREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES NO YES EBD-14-H1 Welds not in accordance with M-190-H06F-1400-8 18 EBD-14-H7 not in accordance with M-19 406F-1406-6 Yes Evaluation x I EBD-14-H17A Welds not in accordance with M-190-H17A-1416B-4 10 EBD-14-H19A Welds not in accordance with M-190-H06F-1418A-4 EBD-14-H16 Spans Areas 7 and 8 X x Evaluation Yes 2B EBD-14-H35 moved 14" South Envelope of areas 7 and 9 should be used in the analysis Yes Evaluation 7 I Extra Hanger located on 6" - HBD-137 between Anchor A8 and HBD-137-H8 EBD-14-H90 moved 1'-9" South EBD-14-H74 moved 2'-10" East Yes X X Evaluation 1196 023

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Cent OK AS IS OR DAG/ CALC CHCS REQD CORRECT TO ORIGINAL DESIGN SYSTEM OPERABIL. SYSTEM FEEDWATER UNAFFECTED TE A CECTED AMALYSIS REQUIRED STRESS CALCUL..TON NO. WALKDOWN PACKAGE NO. REMARK NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES NO YES EBD-12-SH20 Structural Member not in accordance with 9 42B EBD-12-SH21 Structural Member not in accordance with C-619 Extra Support UR-1 located between EBD-12-5R27 and _ EBD-12-5R13 12-SR30 moved 1'-8"S. 12-SR39 moved 12k"E. 12-SR40 moved 12k"E. 12-SR42 moved 1'-4 3/4"W. The weight of Valve 15-1 used in seismic analysis differs from vendor supplied weight. X Evaluation 1196 024

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STRESS CALCULATION NO.	WALKDOWN PACKAGE NO.			DISCREPANCIES	OK AS IS OR DWG/ CALC CHGS REQD	CORRECT TO OFIGINAL DESIGN	ANALYSIS REQUIRED	UNAFFECTED	AFFECT SD	IF AFFECTE REFER TO REMARK NO.
N C SI	ZZZ	NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES		_				
1198	25			HBC-44-H5 Additional Load Attached HCB-49-H1 Welds not in accordance with Grinnell SK. B-4900 HCB-49-H2 Welds not in accordance with Grinnell SK. B-4901 HCB-44-H-10 moved 13" South						
				HCB-44-H-7 moved 14½" South HCB-44-H-2 moved 15" Up						
				Support HCB-44-H10 Spans areas 7 & 9 Envelope of these 2 areas should be considered in analysis.						
			×	Evaluation			yes	x		
119D	25			HBC-74-H3 Welds not in accordance with Grinnell SK. 11-7402 HBC-74-H10 Welds not in accordance with Grinnell SK. 11-7409 HBC-74-H11 Welds not in accordance with Grinnell SK. 11-7410 HBC-74-H13 Welds not in accordance with Grinnell SK. 11-7412 HBC-74-H14 Welds not in accordance with Grinnell SK. 11-7413 HBC-74-H17 Welds not in accordance with Grinnell SK. 11-7416 Extra Support No. 2 located next HBC-74-H3						
				RBC-74-H18 moved 13" South HBC-74-H11 moved 20" South						*
				Evaluation			yes yes	x		
119E	5			HBB-16-H1 Welds not in accordance with M-190-H29-1600-3 HBB-16-H2 moved 1'-10" North Evaluation			** yes	×		
119H	25		×	Extra Support No. 1 located next to HBC-73-h9 Evaluation		k	no	x		
1191	25	+			+	+	\vdash			-
		×		Evaluation	x		no	×		
119J	25			HBC-73-H4 Welds not in accordance with Grinnell SK. 11-7303 HBC-73-H7 Welds not in accordance with Grinnell SK. 11-7306 HBC-73-H8 Welds not in accordance with Grinnell SK. 11-7307						
	_	1	_ x	Evaluation	+	+	ye	s x	-	-
119K	25			HBC-73-86 Welds not in accordance with Grinnell SK. 11-7305						
		1	*	- Evaluation	-	+	ye	8 X		
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		TE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS	a	ECKE	Canf		-	DATE 9/30/1
		SYSTEM QUENCH TANK DRAIN	R DWG/	ESIGN		OF	YSTE	BILITY
NO.		DISCREPANCIES	OK AS IS OR DWG/ CALC CHGS REQD	CORRECT TO OFICINAL DESIGN	ANALYSIS REQUIRED	U. AFFECTED	AFFECTED	IF AFFECT REFER TO REMARK NO.
ND. WALL	T5	IF YES, DESCRIPTION OF DISCREPANCIES	783	CO	5 3	2	A	
58A 48		Envelope of 7 and 9 should be used in seismic analysis Evaluation			*** yes	×		
58C 48		40 HCC-85-H5 moved 12½" down Envelope of 7 and 9 should be used in seismic analysis Evaluation			*** yes	×		
58D 48		HSC-19-H5 Welds not in accordance with M-190-H408-1904-2 HSC-19-H7 Welds not in accordance with M-190-H408-1906-2 HSC-2 '48 Helds not in accordance with M-190-H408-1907-1 HSC-19-H9 Welds not in accordance with M-190-H408-1908-2 40 HSC 19-H2 moved '4'-8" West 40 HSC 19-H6 moved 13" West 40 HSC 19-H9 moved 14" West Evaluation			*** yes			

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PAGE 5 or hay be DATE 9,20/21 IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED ON OK AS IS OR DWG/ CALC CHGS REQU CORRECT TO GRIGINAL DESIGN ANALYSIS REQUIRED SYSTEE OPERABILITY SYSTEM MAKEUP AND PURIFICATION UNAFFECTED IF AFFECTED REFER TO REMARK STRESS CALCULATION NO. WALKLOWN PACKAGE NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES NO YES 31-K.CC-2-HS lowered 15%" 27 Yes X Evaluation x . . 1196 027

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				IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS	a	ECKE	Cay	_	ma.	DATE 4/30/7
				SYSTEM DECAY HEAT REMOVAL	OK AS IS OR DAC/	NO 15			YSTE	BILITY
STRESS CALCULATION NO.	PACKAGE NO.			DISCREPANCIES		CORRECT TO ORIGINAL DESIGN	ANALYSIS REQUIRED	UNAFFECTED		IF AFFECT REF R TO RE K
CAI	PAC	NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES	50	5 6	8 S	5	7	
32E	30 31		•	GCB-8-H2 Spring travel stops still installed GCB-7-H7 Structural member not in accordance with M-390-H33C-706A-3 GCB-7-H9 Configuration not in accordance with M-190-1- 1C-708-3 GCB-8-H6 ed 1' 10" south GCB-8-H5 moved 2' 4 5/16" south Weight of valves HV-DH9B and B97-1 used in the analysis differs from the vendor supplied weight. Envelope of areas 7 & 8 should be used in seismic analysis Evaluation			yes	×		
32G	31		x	Envelope of areas 7 and 9 should be used in analysis Evaluation			*** yes	*		
32H	31			Envelope of areas 7 and 9 should be used in analysts						•
			×	Evaluation			yes	×		
				1196 028						

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED CON OK AS IS OR DUG/ CALC CHGS REQD CORRECT TO ORIGINAL DESIGN ANALYSIS REQUIRED SYSTEM SYSTEM LOW PRESSURE INJECTION OPERABILITY UNAFFECTED STRESS CALCULATION: NO. WALKDOWN PACKAGE NO. IF AFFECTE REFER TO NO. DISCREPANCIES 17 YES, DESCRIPTION OF DISCREPANCIES YES GCB-1-H5 moved 8 3/4" West GCB-1-H7 moved 8 3/4" West GCB-1-H11 moved 2'-2" West 33 188 Yes X Evaluation X GCB-10-H17 moved 18 3/4" West GCB-10-H16 moved 12" West GCB-10-H10 moved 15" North 18F 33 Envelope of areas 7 & 8 and 9 should be used in the analysis Yes X Evaluation X 1196 029

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		SYSTEM HIGH PRESSURE INJECTION				TO DESIGN		SYSTEM OPERABILITY		
CALCULATION NO.	PACKAGE NO.			DISCREPANCIES	CALC CHCS REQD	CORRECT TO CRICINAL DES	ANALYSIS REQUIRED	UNAFFECTED	AFFECTED	IF AFFECT REFER TO REMARK NO.
NO	i a z	NO	YES	IF YES, DESCRIPTION OF DISCREPANCIES		-		+	-	
13	32		x	Anchor A055 moved up 14%" CCB-19-H12 moved up 2'-1%" CCB-2-H18A moved up 10%" CCB-19-H9 moved 13%" east CCB-19-H8 moved 2'-6%" north CCB-19-H8 moved 18%" north Pipe CCB-19 (H7 & H8) was 7'-8%" long CCB-19-H6 moved 12%" east CCB-19-H5 moved 12 7/8" east Anchor A054 in area 8. Envelope of 7 & 8 needs to be used in analysis Weight of the valves B7-1 & B7-4 used in the seismic analysis differs from vendor supplied weight. Evaluation			Yes	x		
54	32		x	CCB-2-H17 Welds not in accordance with M-190-H33D-216-8 CCB-12-H1 Welds not in accordance with M-190-H33D-1200-2 CCB-19-H2 Configuration not in accordance with M-190-H33D-1901-8 CCV-19-H3 Welds not in accordance with M-190-H33D-1902-8 CCB-19-H3 moved 6 5/8" east New hanger H-2 installed 4'-lit" east of CCB-19-H1 CCB-12-H1 moved 14 3/8" west Support H3 spans joint. Envelope of 7 & 8 needs to be used in analysis			Yes	X		
56A	32		x	CCB-2-H7 Structural Members not in accordance with M-190-H33D-206-5 CCB-2-H11 Welds not in accordance with M-190-H33D-210-6 Extra Hanger UH-1 located between Anchor A-46 and HCC-124-H4 Envelope of Areas 7 & 9 needs to be used in analysis CCB-2-H12 moved 12 3/4" North Evaluation			eas Yes	x		
5681	32			CCB-2-H3 Welds not in accordance with M-190-H33D-202-5 Extra Hanger UH-3 located between CCB-2-H4 and CCB-2-H5 CCB-2-H4 moved 23%" north Anchor A-055 moved up 14%" Evaluation			** Ye	. ,		
56B2	32		x	The weight of the valve HV-HP2B used in the analysis differs from the vendor supplied weight. Envelope of Areas 7 & 9 should be used in the analysis. Evaluation	om		Yes		x	

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED CL OK AS IS OR DWG/ CALC CHGS REQU CORRECT TO ORIGINAL DESIGN SYSTEM SYSTEM_ HICH PRESSURE INJECTION OPERABILITY STRESS
CALCULATION
NO.
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PACKAGE
NO. UNAFFECTED IF AFFECTE ANALYSIS REQUIRED AFFECTED REFER TO REMARK NO. DISCREPANCIES YES IF YES, DESCRIPTION OF DISCREPANCIES NO HCC-91-H2 Welds not in accordance with M-190-H33D-9101-4 32 56C HCC-91-H3 Welds not in accordance with M-190-H33D-9102-10 Yes X x Evaluation HCC-91-H9 Walds not in accordance with M-190-H33D-9108-7 56D 32 HCC-91-H12 Welds not in accordance with M-190-H33D-9111-6 HCC-91-H9 moved 13 1/8" west HCC-91-H8 moved 13 1/8" west Evaluation X X 56E 32 HCC-91-H13 Configuration not in accordance with M-190-H33D-9112-4 HCC-91-H17 Welds not in accordance with Grinnell 14-9116 RCC-91-H19 Welds not in accordance with M-190-H33D-9116-6 BCC-91-H21 Welds not in accordance with M-190-H33D-9120-6 HCC-91-H23 Welds not in accordance with M-190-H33D-9122-4 3"-HCC-91 E1. 580'-3"(J-3) increased length by 1'-10 3/16" X Evaluation X -H33D-235-2 56F 32 HCB-2-H36 Welds not in accordance with M-HCB-2-H38 Welds not in accordance with ! 10-H33D-237-2 .90-H33D-238-3 HCB-2-H39 Welds not in accordance with HCB-2-H40 Welds not in accordance with M-190-H33D-239-2 HCB-2-H41 Welds not in accordance with M-190-H33D-240-2 HCB-2-H43 Welds/Plates not in accordance with M-190-H33D-242-2 Minor modification from originally analyzed piping configuration. New Hanger installed 7" from east elbow at E1. 559'-9" 4"HCC-124 * Evaluation Yes × 1196 031

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By haly ful 11ATH 9/30/26 IE BULLETIN 79-16 DESCRIPTION OF INSPECTION RESULTS CHECKED CL OK AS IS OR DAG/ CALC CHGS REQD CORRECT TO ORIGINAL DESIGN SYSTEM SYSTEM CONTAINMENT SPRAY CPERABILITY STRESS CALCULATION NO. WALKDOWN PACKACE NO. IF AFFECTAL ACALYSIS REQUIRED UNAFFECTE AFFECTED REMARK DISCREPANCIES NO. KO YES IF YES, DESCRIPTION OF DISCREPANCIES GCB-5-H3 Welds not in accordance with M-190-H34D-502-8 19A 36 GCB-5-H4 Welds not in accordance with M-190-H34D-503-7 GCB-5-H33 moved 7" East Weight of valves 824-10 and B31-2 used in the analysis differ from vendor supplied weights. X X Evaluation GCB-5-H7 Load-Carrying Member not in accordance with 198 36 M-190-H34D-506-9 GCB-5-H9 Welds not in accordance with M-190-H34D-508-5 GCB-5-H35 not in accordance with M-190-H34D-534-1 HCC-38-H3 Structural Member not in accordance with M-190-H34D-3802-5 Extra Hanger UN-3 located between Anchor A80 and HCC-38-H5 Weight of the valves B24-11, B31-3 and B98-1 used in analysis differ from vendor supplied weight Envelope of Areas 7 & 9 need be considered in analysis Evaluation X X Yes 19C 36 HCC-38-H7 Clearances and additional loading not in accordance with SK-14-3806 HCC-38-H8 Welds not in accordance with SK-14-3807 HCC-38-H9 Configuration of additional Hanger not in accordance with SK-14-3808 HCC-38-Hll Structural Member size, shim size, and clearance not in accordance with M-190-H34D-3810-6 HCC-38-H12 Welds not in accordance with M-190-H34D-3811-4 HCC-38-H13 Additional loads attached to Hanger Anchor A-81 moved 1'-6" West ECC-38-E8 moved 1'-7" East Support HCC-38-H12 Spans Areas 7 and 9 Envelope of Areas 7 & 9 should be used in analysis X Evaluation 1196 032

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BY haly he DATE 9/30/29 IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Com SYSTEM OK AS IS OR DWG/ CALC CHGS REQD SYSTEM_ COM. DNENT COOLING WATER OPERABILITY UNAFFECTED IF AFFECTE STRESS CALCULATION: NO. WALKDOWN PACKAGE NO. CORRECT TO ORIGINAL D ANALYSIS REQUIRED AFFECTED REFER TO REMARK NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES YES 200 43 X Evaluation No X HBC-2-Hl Configuration not in accordance with M-190-%36A-200-9 39 55A ** Yes x Evaluation x HBC-2-H3 Weld's not in accordance with M-190-H36A-202-7 39 55B Support 36HBC-2-H4 moved 1'-0" east extra clamp added (not included in the analysis) ** Yes x x Evaluation 39 55C Evaluation X X × No HBC-27-H4 Welds not in accordance with M-190-H36A-2703-7 39 55D Valve P6-5 Welded directly to elbow x X Evaluat on Yes X Anchor A-095 moved 2'-8', east HBC-52-H3 moved 3'-1" south Valve B41-4 is relocated beyond the 61D 40 42 problem Yes X Evaluation X Anchor A-398, Welds/Structural Members not in accordance 61J 41 with C-674 1-H14 moved 8" down 1-H17 moved 11½" South 1-H18 moved 9½° South ** Yes x x Evaluation 1196 033

IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Com OK AS IS OR INC/ CALC CHGS REQD CORRECT TO ORIGINAL DESIGN SYSTEM OPERABILITY SYSTEM COMPONENT COOLING WATER IF AFFECTED JNAN FECTED STRESS
CALCULATION
NO.
WALKDOWN
PACKAGE
NO. ANALYSIS REQUIRED REFER TO REMARK NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES YES NO Anchor A-399 Welds/Structural Members not in accordance 41 61K with C-672 RBC-1-H7 Configuration/Structural Member not in accordance with M-190-H36C-106-5 HBC-1-H2O Configuration/Structural Member not in accordance with M-190-H36C-119-4 HBC-1-H21 Configuration/Structural Member/Weld not in accordance with M-190-H36C-120-3 1-H23 moved 1'-23" South 1-H21 moved 83" North-West ** Yes Evaluation X Anchor A-400 Welds/Structural Member not in accordance 61L 41 with C-675 HBC-1-H25 Structural Members not in accordance with M-190-H36C-124-3 HBC-1-H26 Structural Members/Welds not in accordance with M-190-H36C-125A-7 1-H25 moved 9" down 1-H26 moved 11 5/16" North-East ** Yes Evaluation X HBC-28-H11 Welds not in accordance with M-190-H36C-2810-4 41 61T Weight of the valve B81-2 used in the analysis differs from vendor supplied weight *** Yes X Evaluation × Valve B81-1 Orientation not in accordance with M-236C 41 61V Weight of the valve B81-1 used in the analysis differs from vendor - plied weight Yes X Evaluation X HBC-80-H1 Configuration not in accordance with M-190-H36C-8000-6 Yes X Evaluation X 1196 034

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED C TO DESIGN OK AS IS OR DWG/ CALC CHCS REQD SYSTEM SERVICE WATER OPERABILITY STRESS CALCULATION NO. WALKDOWN PACKAGE NO. UNAFFECTED TE AFFECTED CORRECT TO ORIGINAL ANALYSIS REQUIRED AFFECTED REFER TO NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES NO YES 51 51 Extra Hanger "HA" located between HBD-96-H4 & HBD-96-H5 Hanger HBD-96-H4 sketch calls for weld all-around, but welded at 2 of 4 sides. RBC-34-H41 moved 14 11/16" southwest along pipe Anchor A137 inaccessible Weight of the valves E3-14 and E3-15 used in the seismic analysis differs from vendor supplied weight. Evaluation Yes A Weight of the valves PSV-3962 and 51B 51 PSV-3963 in the seismic analysis differs from vendor supplied weigh. *** Evaluation X X Yes 110A 55 HBC-37-H27 Welds not in accordance with M-190-H41L-3726-2 HBC-37-H34 Structural Member not in accordance with M-190-H41L-3733-4 HBC-37-H35 Welds not in accordance with M-190-H41L-3734-2 HBC-37-H36 Structural Mem'er not in accordance with H-1' -141L-3735-4 HBC-37-H37 Welds not in accordance with M-190-H41L-3736-6 HBC-37-H40 Structural Members not in accordance with M-190-H41L-3739-4 HBC-37-H42 Welds not in accordance with M-190-H41L-3741-3 HBC-37-743 Welds not in accordance with M-190-H41L-3742-4 37-846 moved 1'-4" N. 37-H36 moved 1'-7" S. 37-R45 moved 1'-4 3/4" SE. 41 HBC-37 H39 Inaccessible X Evaluation X 63B 53 41-HBC-42-H2 moved 18" East Weights of following valves used in analysis differs from vendor supplied weight: F4-9,F4-10, F4-11, F6-7, F6-8, F6-9, F6-10, TV1429, TV1434 Yes x Evaluation X 1196 035

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Conf SYSTEM OK AS IS OR ING, CALC CHGS REQD 3 SYSTEM SUMP PUMP DISCHARGE OPERABILITY TO STRESS CALCULATION NO. WALKUOWN PACKAGE NO. IF AFFECTE! CORRECT TO ORIGINAL ANALYSIS REQUIRED AFFECTED REFER TO REMARK NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES NO YES HSC-145-H36 Welds not in accord with M-190-H46B-14535-4 57 96A HSC-145-H37 Clearances not in accordance with M-190-H468-14536-4 Additional loads attached HSC-145-H39 Structural Members not in accordance with M-190-H468-14538-3 MSC-145-H46 Welds not in accordance with M-190-H46B-14545-4 x Yes Evaluation X HSC-155-H10 Welds not in accordance with M-190-H468-15509-1 96C HSC-155-H11Welds not in accordance with M-190-H468-15510-2 HSC-145-H4 moved 1'-6 7/8" north HSC-155-H12 moved up 1'-25" ** Yes X Evaluation X HSC-145-H16 Welds not in accordance with M-190-H468-14515-6 57 96D HSC-145-H19 Welds not in accc. 111- with M-190-H468-14518-3 HSC-145-921 Welds not in accordance with M-190-H468-14520- . Evaluation X X HSC-155-H4 Additional roads attached 96E 57 Extra Hanger located between HSC-155-H3 and HSC-155-H4 Anchor A355 has moved to horizontal pipe from vertical position (2½" HSC-155). 8" from elbow toward north HSC-155-H3 moved 3'-5" east Anchor A-356 moved 2'-3" west X Evaluation X HSC-155-H9 Configuration not in accordance with M-190-H468-14508-5 96F 57 HSC-155-H16 Welds not in accordance with M-190-H46B-15515-2 Anchor A356 moved 2'-3" west Pipe routing changed-elbows added-used to be 28'-5" @ El. 56l'-3" now 23'-6" @ El. 56l'-3" & 5'-0" @ 559'-3" HSC-155-H18 moved 1'-6" west RSC-155-H9 previously only hanger support-now rigid x support added Archor A357 moved up 3'-7%" X Evaluation x 1196 036

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Com SYSTEM TO DESIGN OK AS IS OR DWG/ CALC CHCS REQD SYSTEM AUXILIARY STEAM OPERABILITY STRESS CALCULATIC: NO. WALMOGEN PACKAGE NO. UNAFFECTED IF AFFECTED CORRECT TO ORIGINAL 1 AUGULYSIS REQUIRED REFER TO NO. DISCREPANCIES YES IF YES, DESCRIPTION OF DISCREPANCIES NO GBD-12-H4 Welds not in accordance with M-190-H208-1203-3 680 21 Restraint 20 GBD-12 H6 moved 2'-1!" down Restraint 20 GBD-12 H3 moved 1'-11" north ** Yes x Evaluation X Extra Hanger located next to HBD-37-H77 22 77A HBD-44-H2 Configuration not in accordance with Grinnell SK 12-4401 HBD-44-H4 Welds not in accordance with M-190-H20D-4403-2 HBD-44-H11 Structural Member not in accordance with M-190-H20D-4410-3 Anchor A-238 moved 2'-0" east ** Yes X Eva luation X 778 22 HBD-44-H8 Configuration not in accordance with M-190-H20D-4407-3 HBD-44-H9 additional load attached Yes X Evaluation X 77C Evaluation X X X No HBD-86-H3 Additional Load attached 77E 22 Support 20 HBD86-H4 moved 1'-4" east ** Ye: Evaluation X X 77F 22 The weight of the valve HV-2073 used in the analysis differs from the vendor supplied weight X Evaluation X Yes 77G 22 x Evaluation x X No 1196 037

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CALC CHGS REQU
CORRECT TO
ORIGINAL DESIGN
AMALYSIS
REQUIRED SYSTEM OPERABILITY SYSTEM AUXILIARY STEAM UNAFFECTED STRESS CALCULATION NO. WALKINGWN PACKAGE NO. IF AFFECTE REFER TO REMARK NO. TSC ANCIES IF YES, DFT IFT. N OF DISCRE ANCIES NO YES Restra: 27 3D-86-H17 moved 1'-7 5/8" down 77H Yes x Evaluation 1196 038

CHECKED Conf IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS OK AS IS OR DAG/ CALC CHGS REQO CORRECT TO ORIGINAL DESIGN AVALYSIS REQUIRED SYSTEM OPERABILITY SYSTEM STATION AND INSTRUMENT AIR IF AFFECTED REFER TO REMARK STRESS CALCULATION: NO. WALKDOWN PACKAGE NO. AFFECTED NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES YES Seismic Boundary location not in accordance with M-215 128A 16 Support 15 HCD-30 H1 not included in the analysis Support 15 HCD-30 H2 not included in the analysis ** X Evaluation x 1196 039

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Con OK AS IS OR DAG/ CALC CHGS REQD CORRECT TO ORIGINAL DESIGN SYSTEM SYSTEM FIRE PROTECTION SYSTEM OPERABILITY. UNAFFECTED IF AFFECTES
REFER TO
REMARK STRESS CALCULATION NO. WALKINGWN PACKACE NO. ANALYSIS REQUIRED NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES YES Valve FP-1 Orientation not in accordance with M-216F, rotated 30° East 118A 20 Extra Support KBE-3-H2 is installed Ext: & Support KBE-16-H14 is installed Extra Support KBE-16-H15 is installed The weight of the valve FP-47 used in the analysis differs from the vendor supplied weight *** Evaluation Yes X x 1196 041

PAGE_ IE BULLETIN 79-16 DESCRIPTION OF INSPECTION RESULTS OK AS IS OR DUG/ CALC CHGS REQD CORRECT TO ORIGINAL DESIGN ANALYSIS REQUIRED SYSTEM OPERABILITY SYSTEM SCREEN WASH AND CHLORINATION UNAFFECTED IP AFFECTED
REFER TO
REMARK
NO. STRESS CALCULATION NO. WALKDOWN PACKAGE NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES YES Anchor A148 moved 1'-13" East 103A 14 No X Zvaluation X 1196 042

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CL CHECKED SYSTEM TO DESIGN S IS OR DAC/ CHGS REQD SYSTEM MAKEUP WATER TREATMENT OPERABILITY STRESS
CALCULATION
NO.
WALKNOWN
PACKAGE
NO. IF AFFICTI CORRECT TO ORIGINAL ANALYSIS REQUIRED UNAFFECTE VFF ECTED REFER TO OK AS REMARK NO. DISCREPANCIES IF 'ES, DESCRIPTION OF DISCREPANCIES NO YES HSC-23-H1 Welds/Confirguration not in accordance with M-190-H10E-2300-3 102A 12 HCB-23-H2 Configuration not in accordance with K-190-H10E-2301-5 HCB-23-H4 Structural Members not in accordance with H-190-H10E-2303-3 RCB-23-H6 Configuration not in accordance with M-190-H10E-2305-4 Envelope of Areas 8 and 9 should be used in analysis X Evaluation X Anchor Al85 Configuration not in agreement with C-883 102B 13 HCD-4-H73 Welds not in accordance with M-190-H10F-472-3 HCD-4-H53 Structural Member not in accordance with H-190-H10F-452-4 Extra Support No. 2 located next to HCD-4-H53 Extra Support No. 3 located between HCD-4-H50 and HCD-4-H51 Extra Support No. 4 located next to HCD-4-H47 Extra Support No. 5 located next to HCD-4-H55 Extra Support No. 6 located next to HCD-4-H57 Extra Support No. 7 located next to HCD-4-H60 Extra Support No. 8 located next to HCD-4-H61 Extra Support No. 9 located next to HCD-4-H63 Extra Support No. 10 located between HCD-4-H69 and HCD-4-H70 Extra Support No. 11 located next to HCD-4-H78 Extra Support No. 12 located between HCD-4-H80 and HCD-4-H81 Extra Support No. 13 located next to HCD-4-H62 Extra Support No. 14 located between HCD-4-H73 and HCD-4-H75 Anchor A-168 moved 3'-1" to East Anchor A-108 moved 1'-1" to East 10B HCD-4-H-76 moved 1'-1" to West 10B HCD-4-H-62 moved 13" to North TEE (E-3) moved 1'-3" to South 10B HCD-4-H-59 moved 1'-6" to East GCD-4-H61 Spans Seismic Joint Yes X Evaluation x Anchor A389 Configuration not is agreement with C-897 102C 12 Anchor A183 Configuration not in agreement with C877 HCD-4-H39 Structural Members not in agreement with M-190-H10E-438-3 HCD-4-H41 Welds/Configuration not in agreement with M-190-H10E-440-4 Valve A143-1 Orientation not in agreement with M-210E Envelope of Areas 8 and 9 should be used in the analysis Evaluation X X

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IE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED CA TO DESIGN SYSTEM OK AS IS OR DAG CALC CHGS REQD SYSTEM MAKEUP WATER TREATMENT OPERABILITY UNAFFECTED STRESS CALCUTATION NO. WALKDGIN PACKAGE. NO. TE AFFECTED CORRECT TO ORIGINAL ANALYSIS REQUIRED AFFECTED REFER TO REMARK NO. DISCREPANCIES IF YES, DESCRIPTION OF DISCREPANCIES NO YES HCC-50-H1 Welds not in accordance with H-190-H10E-5000-3 102D 12 HCC-50-H2 Welds not in accordance with Grinnell SK 14-5001 HCC-50-H3 Configuration not in accordance with M-190-H10E-5002-HCC-50-H4 Welds not in * scordance with M-190-H10E-5003-3 Suppores located in areas 7 & 8 should be analyzed for displacement X Evaluation X HCC-50-H44 Welds not in accordance with M-190-H10C-5043-3 102E 10 HCC-50-H10 Welds not in accordance with M-190-H10C-5009-3 HCC-50-H11 Welds not in accordance with M-190-H10C-5010-3 HCC-50-H12 Welds not in accordance with M-190-H10C-5011-5 HCC-50-H13 Welds not in accordance with M-190-H10C-5012-4 HCC-50-H15 Configuration/Structural Member not in accordance with M-190-H10C-5014-4 HCC-50-H17 Welds not in accordance with M-190-H10C-5016-5 HCC-50-H18 Welds not in accordance with M-190-H10C-5017-4 HCC-50-H19 Welds and clearances not in accordance with M-190-H10C-5018-4 ECC-50-H23 Welds not in accordance with M-190-H10C-5022-5 HCC-50-H25 Welds not in accordance with M-190-H10C-5024-5 HCC-50-H27 Welds not in accordance with M-190-H10C-5026-5 HCC-50-H28 Welds and attachment not in accordance with M-190-H10C-5027-5 HCC-50-H32 Welds not in accordance with M-190-H10C-5029-4 HCC-50-H33 - Not installed HCC-50-H34 Welds not in accordance with M-190-H10C-5033-4 HCC-50-H35 Welds not in accordance with M-190-H10C-5034-5 HCC-50-H36 Welds not in accordance with M-190-H10C-5035-4 HCC-50-H37 Welds not in accordance with M-190-H10C-5036-7 HCC-50-H39 Welds not in accordance with M-190-H10C-5038-5 HCC-50-H40 Structural Hembers not in accordance with M-190-H10C-5039-5 HCC-50-H42 Welds not in accordance with M-190-H10c-5041-6 HCC-50-H/3 Welds no in accordance with M-190-H10C-5042-5 Extra Hanger UH-1 located next to HCC-50-H9 Extra Hanger UH-2 located between HCC-50-H10 and HCC-50-H11 Extra Hanger UH-3 located between HCC-50-H11 and HCC-50-H12 Extra Hanger UH-4 located next to HCC-50-H19 Extra Hanger UH-5 located next to HCC-50-H20 Extra Hanger UH-6 located next to HCC-50-H31 1196 044

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TE BULLETIN 79-14 DESCRIPTION OF INSPECTION RESULTS CHECKED Com OR DEG/ SYSTEM TO TO TO SYSTEM MAKEUP WATER TREATMENT OPERABILITY STRESS CALCULATION NO. WALKINGER PACKAGE NO. UNAFFECTED CHCS IF AFFECTED CORRECT TO ANALYSIS REQUIRED REFER TO OK AS REMARK DISCREPANCIES NO. NO YES IF YES, DESCRIPTION OF DISCREPANCIES Extra Hanger UH-7 located between HCC-50-H43 and HCC-5' 44 102E 10 Cont. Extra Hanger UH-8 located between HCC-50-H47 and Ancho: -64 HCC-50-H9 moved 1'-6 5/8" West HCC-50-H10 moved 1'-8 3/8" West HCC-50-H13 moved 2'-9" South HCC-50-H18 moved 1'-7 3/4" up HCC-50-H21 moved 1'-7 7/8" East HCC-50-H30 moved 13" East HCC-50-H33 is missing HCC-50-H42 moved 12 7/8 North HCC-50-H43 moved 14 1/8" South HCC-50-H44 moved 12½" North HCC-50-H45 moved 2'-2½" North HCC-50-H46 moved 2'-2 1/8" West Support HCC-50-2 1 Spans Seismic Joint Evaluation Yes X 102F 10 X Evaluation X No X 102G Anchor \$523 Configuration/Structural Members not in 11 accordance with C-831 Anchor A424 Structural Members not in accordance with C-837 HCC-51-H102 Welds not in accordance with M-190-H10D-A5101-2 HCC-51-H103 Welds not in accordance with M-190-H10D-A5102-2 BCC-51-H104 Welds not in accordance with M-190-H10D-A5103-3 10B HCC-51-H103 moved 1'-2 1/8" to West Anchor A424 moved 2'-3\frac{1}{2}" to North-West X Evaluation X 11 HCC-69-H104 Welds not in accordance with M-190-H10D-A6903-2 HCC-69-8105 Welds not in accordance with M-190-H10D-A6904-3 Extra Hanger UH-1 located next to HCC-69-H101 10B-HCC-69-H102 moved 1'-1" to West 108-HCC-69-H104 moved 1'-0 3/4" to South Anchor A-426 moved 1'-4 5/8" to North-West X Evaluation Yes X 1021 12 Anchor A427 Structural Members not in accordance with C-657 HCC-40-H103 Configuration not in accordance with H-190-H10E-A4002-1 Anchor A-428 moved 1'-6t North-West

Evaluation

Yes X

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